WEATHER IN THE UNITED STATES

[Climatological Division, OLIVER L. FASSIG in charge]

THE WEATHER ELEMENTS

By M. C. BENNETT

GENERAL SUMMARY

Unusually mild weather continued during February in practically all sections east of the Rocky Mountains, making the sixth consecutive month with abnormally high temperatures in these regions. However, a small area in the far Northeast averaged slightly colder than normal. Elsewhere from the Great Plains eastward the average temperature was from 5° to 10° above normal, with the greatest departures from the Ohio and lower Missouri Valleys southward. On the other hand, the central Plateau region had decidedly cold weather, the monthly average being from 3° to 12° below normal, while elsewhere from the Rocky Mountains to the Pacific about normal temperatures prevailed.

More than normal precipitation was received during February from northern Georgia and Tennessee westward, and in the west Gulf district, the far Southwest, and a few limited areas in the northern part of the country. On the other hand, the Atlantic coast area received generally less than normal, while very dry weather prevailed in Florida, much of the Lake region, the central valleys, the Northwest, and the central Pacific district.

TEMPERATURE

While there was some decidedly cold weather during the first week, especially in the northern Rocky Mountain and Plains States, yet this week was mainly warmer than normal from the Continental Divide eastward, save in Minnesota and the Dakotas. It averaged much warmer than normal in the Gulf and South Atlantic States and the Ohio Valley. However, beyond the Rocky Mountains this week was colder than normal save near the Mexican border.

For a fortnight centering about the middle of the month the eastern half of the country was almost constantly warmer than normal, notably the Gulf States, and the central Plains also had mild weather. Much of the western half experienced cold weather, particularly the middle and northern Plateau.

In most of New York and New England cold weather set in about the 15th, and the remainder of the month was largely colder than normal, notably in eastern and northern New England. Save for this area, the closing week of February was warmer than normal in every State, especially over the middle and upper Mississippi Valley, the Plains, and the Rocky Mountain region.

As a whole, February was another surprisingly mild month over nearly every portion from the Rocky Mountains eastward. The month averaged from 7° to 11° warmer than normal in the Ohio, middle Mississippi, and lower Missouri Valleys, and everywhere southward to the Gulf of Mexico, also in Oklahoma and northern and eastern Texas. Practically all stations in these areas found it among the mildest Februarys of record, while in the lower Mississippi Valley and close to the Gulf coast it was almost everywhere the very warmest. In New England and from western Lake Superior to Montana the month was only moderately warmer than normal.

This was the sixteenth consecutive month warmer than normal at Williston, N. Dak., and the ninth over a large part of the section east of the Mississippi River. At some stations on or near the Mississippi River it was the sixth consecutive month to average at least 5° warmer than normal and the fourth to average at least 8° warmer. In the Southeast it usually concluded the mildest winter (December to February, inclusive) of record, but in the Lake region, Ohio Valley, and central valleys it was usually not quite so warm as the winter of 1889–90.

Generally in the Pacific States, Idaho, Nevada, and Utah the month was colder than normal. In northern Nevada and districts adjacent there was a deficiency of at least 6° per day. At Winnemucca, Nev., Pocatello, Idaho, and Modena, Utah, this was the fourth consecutive month to average at least 3° colder than normal.

The highest temperatures in about half of the States were between 80° and 90°, but in several northern border States they were below 70°. The highest of all was 97° at Blanco, Tex., on the 7th. As a rule, the States of the eastern half noted their highest marks about the 10th, but a few northern States from Minnesota eastward joined the Western States in attaining their highest during the final five days of the month.

The lowest temperatures occurred chiefly during the opening week, but in Minnesota and some of the Middle Atlantic States during the last decade. However, the very lowest reported, −49°, at Seneca, Oreg., occurred on the 14th. Most other States of the far West and the northern border States reported at least −20° reached locally, but several Gulf States recorded no marks as low as +20°, and from New Jersey, Maryland, Ohio, Indiana, and Illinois southward there were no zero temperatures.

PRECIPITATION

February differed from the two months next preceding in that more than half of the States fell short of the normal precipitation. For nearly all the country there was much more precipitation before the 16th than in the period thenceforward. Usually the first week brought most precipitation from Tennessee and the Carolinas northeastward, but the second week brought most in the vicinity of Lake Michigan and to southwestward over the center of the country. In the far Southwest each of these weeks brought large amounts.

The final fortnight did bring much precipitation to the extreme Northwest, particularly the western half of Washington. Also between the 16th and 21st much of the cotton region had heavy rainfall.

As a whole, the month brought much more than normal precipitation in southernmost districts to westward of the Mississippi River. Arizona and the southernmost portion of California received far more than normal and the greater part of Texas decidedly more than normal, while most of Arkansas and Tennessee and considerable areas adjacent to them had above-normal amounts.

There was somewhat more precipitation than normal in northern Michigan and northwestern Wisconsin, also in western Washington.

The monthly amounts were much less than normal in central and northern Florida, and in most coast districts to northeastward as far as Massachusetts, also in Missouri and Kansas, save their southeastern portions, and in South Dakota and northern Wyoming, and in northwestern California and southwestern Oregon. Moderate deficiencies were reported from eastern Louisiana to southern Alabama, in the central portions of North

Carolina and Virginia, from Pennsylvania and western New York west to Illinois and southern Wisconsin, in most of Nebraska, North Dakota, and northern and western Minnesota, usually in the middle and northern Rocky Mountain regions and the northern and western Plateau, and in central California.

The greatest monthly amount at a single station was 31.29 inches, at a point in western Washington; in the eastern half of the country the greatest amount was reported from a station in Louisiana, 10.96 inches.

SNOWFALL

There was little snowfall in the majority of States; especially there was again almost none from the middle Mississippi Valley eastward to the middle Atlantic coast, where the present cold season has set new records at many stations for least snowfall and briefest duration of snow cover. As a rule, there was somewhat less than normal from New England to Wisconsin and Iowa, likewise in the Plains States and the near Southwest.

Near Lake Superior the snowfall usually exceeded the normal, as it did in most portions of the Plateau States, and generally in the mountainous portions of western Washington and southern California.

The supply of stored snow in the higher portions of the West was mainly quite large as the month ended. In the central Plateau States particularly it was nearly everywhere greater then normal, and in most portions of the Pacific States besides.

SUNSHINE AND RELATIVE HUMIDITY

More than the usual amount of sunshine for February prevailed in the Florida Peninsula, in much of the Missouri Valley, and in western Nevada and northern California; while generally in Texas and Oklahoma and to westward, including the far Southwest, much less than the average was received. In most other areas about the normal amounts prevailed. The relative humidity was generally above the normal in much of the Gulf region, the central Missouri valley, the western Rocky Mountain and Plateau areas, and the far Southwest, while it was below the monthly average in the central Mississippi and Ohio Valleys, the central Atlantic States, the western portion of the Great Plains, and the Pacific area. The departures from the normal were in no case large.

SEVERE LOCAL STORMS, FEBRUARY, 1932

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the Annual Report of the Chief of Bureau]

Place	Date	Time	Width of path (yards)[1]	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Illinois (central)	3				$15,000	Glaze	Interurban trains delayed; motor traffic difficult; some loss to telephone company.	Official, U. S. Weather Bureau.
Baltimore, Md., and vicinity.	4					Wind	Trees uprooted; telephone and light service interrupted.	Do.
Dennison, Tex	10	11:30 p. m.	3 mi.			do	Wires and several small houses blown down	Do.
Scranton, Pa., and vicinity	10	P. m.				Severe thunderstorm.	Streets and basements flooded	Do.
Oklahoma (south-central and eastern).	10-11					Destructive wind	Character of damage not reported	Do.
Buffalo, N. Y., and vicinity	11	A. m.			8,000	Thunderstorm	Teletype service interrupted; barn and contents destroyed by lightning.	Do.
Dallas, Tex	11	A. m.				Wind	Roof caved in, plate glass broken; signs blown down.	Do.
Brookville, Ind	11	11:45 a. m.			3,500	do	Buildings damaged; 2 persons injured	Do.
Cincinnati, Ohio	11	1:09–1:15 p. m.				Wind squall	Some property damaged	Do.
Shaftsburg, Mich. (near)	11	5 p. m.	100		5,000	Tornado	Church, schoolhouse and farm buildings damaged; trees uprooted.	Do.
Cowarts, Ala. (near)	11	10 p. m.			5,000	do	Small buildings and timber wrecked; several persons injured.	Do.
Alabama (northern and central).	11				50,000	Winds	Character of damage not reported	Do.
Batesville, Ark. (near)	11				1,000	do	Small buildings and fences damaged	Do.
Chicago, Tower Hill, Braceville and Napoleon, Ill.	11				35,000	do	Plate-glass windows broken; signs, wires, and light buildings damaged.	Do.
Fort Smith, Ark	11				2,000	do	Buildings, fences and overhead wires damaged	Do.
Ohio	11			4		Destructive winds	Many thousands of dollars damage; character of which was not reported.	Do.
Wisconsin (eastern counties).	11				3,000	Wind	Considerable minor property damage reported	Do.

[1] "Mi." signifies miles instead of yards.

RIVERS AND FLOODS

By MONTROSE W. HAYES

[In charge River and Flood Division]

During the first seven months of 1931 the precipitation was below normal over most of the country east of the Rocky Mountains. This deficiency, immediately following the long period of drought in 1930, caused extremely low stages in most of the rivers of the Mississippi system and gave the lowest stages ever recorded at many gaging stations in a summer month. This unusually long period in which the precipitation was subnormal was followed by three months, beginning with August, 1931, in which it was nearly normal. In November there was more than the usual precipitation through most of the Mississippi system, and in a large part of this area the amounts were as much as four times the normal for the month. In December, 1931, and January, 1932, it was also above normal in most of the Mississippi Valley, and much above normal during January in the Red and Arkansas Basins. In February, 1932, the amounts were above normal in portions of the Ohio Basin, and in most of the Mississippi Valley below Cairo.

Many of the rivers in the Southeastern States, the Gulf States, and in the eastern and southern parts of the Mississippi system rose rapidly in the late fall and early winter, and the interior rivers of Mississippi and Louisiana were in high flood for an unusually long time.

There were floods in the Vermilion, Big Sioux, and Floyd Rivers of Iowa and South Dakota, caused by the rapid melting of snow. In the Republican River of Nebraska and Kansas there was local flooding caused by ice gorges.